

ABSTRACT

Movement timing stimulator systems and methods that aid in the relief of the symptoms of neurological movement disorders are provided. In one embodiment, a method of improving a patient's gait is provided. The method includes producing a plurality of stimulation prompts at a plurality of stimulation points using multiple stimulation channels. The plurality of stimulation points is located symmetrically on each leg. The method further includes applying the plurality of stimulation prompts in a timed periodic fashion across the plurality of stimulation points and activating a return electrode whenever one of the multiple stimulation channels on an associated leg is active. The plurality of stimulation prompts are not synchronized with the patient's gait. Each of the multiple stimulation channels is associated with a stimulation electrode at one of the plurality of stimulation points.